



Research article

Analysis of the effect of the covid-19 pandemic on maternal care at the Acobamba hospital - Huancavelica, Perú 2020

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ABSTRACT

To determine the effect of the COVID-19 pandemic on maternal care in the Hospital of Acobamba - Huancavelica, 2020. Methodology: The research was observational, retrospective, and longitudinal with the population being consisted of 27 and 29 pregnant women, 53 and 60 deliveries, 27 and 29 postpartum women during the second trimester of the year 2019 and 2020, respectively. Results: Analysis with pandemic (2020) and without pandemic (2019), pregnant women attended 86.6% and 114.8%; pregnant women controlled (6APN) 62.1% and 88.9%; with full laboratory set 44.8% and 88.9%. During the pandemic, each pregnant woman received 1.8 visits and 3.9 telephone follow-ups, compared to 0.9 visits and no telephone follow-ups. During the pandemic, delivery care reached 236.7% since deliveries from other jurisdictions and by returning migrants were attended and there were 5% of home deliveries, while during the non-pandemic 86.8% and no home deliveries were attended. The first puerperal check-up reached 162.1%, 137.9% compared to 66.7% and 59.3%; visits to puerperal women reached 117.2% compared to 74.1% non-pandemic. The causes of the main emergencies were abortion (22.2%), hypertensive disease of pregnancy (15.3%), fetal distress (8.3%) and hemorrhage during pregnancy (8.3%). Conclusion: COVID-19 pandemic reduced APN, increased delivery and puerperium care, strengthened follow-up of pregnant and puerperal women, increased emergencies and reduced cases of postpartum hemorrhage. The health team responded to the situation with commitment and responsibility).

Keywords: COVID - 19, Maternal care, Women health, Pandemic, Pre-natal.

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INTRODUCTION

Sexual and reproductive health care becomes vitally important in situations of disaster and risk, such as the pandemic. At the beginning of the emergency, it was restricted in most parts of the world without measuring the consequences that it could cause, approximately one month after the declaration of the health emergency, a reaction was made, generating different strategies to attend these services according to their resources and reinventing strategic actions as in the case of the Provincial Hospital of Acobamba, which when reviewing the care reports and the monthly and by trimester consolidated reports showed us interesting data that we present, and we leave at your disposal for your analysis and critique; we also think that they are important inputs that will help us to adequately manage the risks in pandemic. You know that there is much to improve, but there is much to learn that could be incorporated into maternal care throughout the country.

The present publication consists of four sections, which are presented in the following order: statement of the problem, theoretical framework, research methodology, and finally, the results, including tables and their respective interpretation, discussion, conclusion and recommendations. We hope it will be useful for decision-makers in maternal care and will be a basis for further research.

STATEMENT OF THE PROBLEM

Maternal health is a priority at all levels of care that has gradually advanced in the reduction of maternal mortality, due to the massification of prenatal care, which has helped us to prevent risks and ensure that the pregnant woman arrives in better conditions at delivery, and the institutionalization of childbirth that helped to reduce deaths that occurred in the immediate puerperium due to hemorrhagic causes, and other continuous surveillance strategies that help us to identify risks in the family and community environment,

such as home visits, made it possible to reduce maternal deaths from 769 deaths per 100,000 live births in 1997 to 79 in 2017 ^{[1][2]}. The development of prenatal care and home visits have been limited by the SAR-COV2 (COVID - 19) pandemic, which has affected the entire world and to which our country is linked, since March 16, has altered the way of doing daily activities, especially health care, producing changes in the care of pregnant women. These modifications involve reducing the number of visits to the minimum necessary, the presently follow-ups have changed to telephone follow-ups. Which has had a negative impact on maternal health, resulting in 11 maternal deaths so far this year, which is a disproportionate increase compared to 2019, when there were three maternal deaths, both direct and indirect, according to data provided by the Directorate of Comprehensive Health Care of the Regional Health Directorate of Huancavelica, and the head of the maternal program of the hospital of Acobamba, who has reported an increase in cases of extreme maternal morbidity.

In response to this problem, it is necessary to use virtual environments to help us monitor the pregnant woman at home without exposing her to risks, a task that is complicated due to poverty and technological illiteracy. Moreover, it should be mentioned that the Peruvian health system is not prepared for the use of virtual environments that help us to monitor the pregnant woman at home without exposing her to risks. Even in situations of confinement due to the pandemic, adequate maternal and perinatal health care is required. It is essential to provide refocused, full and regular prenatal care, complemented by home visits and birth plans, fundamental tools that are restricted in their application due to social distancing^[3]. This situation is probably due to fear of being infected by the SAR CV2 virus, which as we know has caused a great number of deaths worldwide, including 34,476.00 in Peru and 125 deaths in Huancavelica, as of October 31, 2020 ^[4]. Therefore, it is necessary to evaluate the effect of the COVID-19 pandemic on maternal care. The activities of the maternal care program were abruptly interrupted when the national health emergency was declared, in addition to the behavior of the pandemic, causing unfortunate deaths, which resulted in panic in the population, leading pregnant women not to go to health facilities, bringing with it complications that put at risk the life of the mother as well as the baby in utero. It is important to analyze the extent to which maternal care was affected, in order to generate new care strategies for future outbreaks or other attacks of this nature.

THEORETICAL FRAMEWORK

The measures imposed by the government of Peru to reduce the massive spread of COVID-19 were the confinement and restriction of health care to emergencies. On the one hand, these measures are in conflict with the need for health in general and in particular with the sexual and reproductive rights of women and early

childhood. For this reason, Masso, et al ^[5] in Spain stated that pregnant and postpartum women and their children are being victims of the consequences of the gynecobstetric patriarchal paradigm in times of pandemic. They analyzed the negative consequences that the management of the coronavirus has had on the processes of childbirth and abortion, leaving mothers unprotected in the process of childbirth by not allowing the entry of the companion and not providing the abortion service legalized in Spain. They affirm that the pandemic should rather be an opportunity to induce changes that guarantee the rights and freedoms of pregnant women and children. On the other hand, it is understood that the coronavirus pandemic is an unprecedented event, which has challenged the knowledge of risk management. Planning and implementation of health risk management in emergency situations remains a challenge for all countries, particularly Peru, which has a fragmented and long-forgotten health system.

The strategic approach, principles, objectives and measures described in the 2017 WHO guide ^[9] would help to manage the planning and implementation of measures for the confrontation of the current pandemic, in which the participation of society is the basis. During health risk management, the processes of risk assessment, management and communication are developed with the objective of reducing the negative effects not only of COVID 19, but also of the measures taken. For this reason, it is important to assess, in this case, the main maternal health indicators presented as follows table I. The concept of health indicators is quite broad, therefore we would like to specify that an indicator is a measurement that reflects a given situation. Any health indicator is an estimate (a measurement with a certain degree of imprecision) of a given dimension of health in a specific population ^[10].

Table 1: Maternal Health Indicators

Indicator	Calculation
Maternal mortality ratio	(N° of maternal deaths X 100,000) / (Total number of births)
Coverage of institutional delivery	(N° of institutional deliveries x 100) / (Total number of deliveries)
Proportion of pregnant women with basic preventive dental care	(N° of pregnant women with basic preventive care. X 100) / (Total number of pregnant women attended in dental service)
Proportion of pregnant women with first prenatal care in the first trimester of pregnancy	(N° of pregnant women with first prenatal care in the first trimester of gestation x 100) / (Total number of pregnant women attended)
Proportion of pregnant women with 6 or more refocused prenatal check-ups	(N° of pregnant women who received 6 or more prenatal check-ups refocused X 100) / (Total number of pregnant women attended)

Pandemic: It is the spread of a new disease worldwide. In case of influenza, a pandemic occurs when a new influenza virus emerges and spreads around the world with most people having no immunity against it ^[11]. The pandemic started in December 2019 in China, and a global pandemic was declared on March 11, 2020.

Pandemic phases:

1. Interpandemic Phase: The period between influenza pandemics.
2. Alert phase: This is the phase in which influenza caused by a new virus subtype has been identified in humans. This phase is characterized by increased surveillance and careful risk assessment at the local, national, and global levels. If risk assessments indicate that the emerging virus is not developing into a pandemic strain, activities may be gradually scaled down to those of the inter-pandemic phase [9].
3. Pandemic phase: Is the period when human influenza caused by a novel viral subtype has spread globally, based on global surveillance data. The transition between the interpandemic, alert, and pandemic phases may be accelerated or gradual, as indicated by the global risk assessment, which is based primarily on virological, epidemiological, and clinical data [9].
4. Transition phase: As the estimated global risk is reduced, global actions may be scaled back and it may be appropriate for countries to reduce response actions or shift to recovery actions if their own risk assessments so indicate [9].

COVID – 19: It is a new coronavirus, initially identified in December 2019 in Wuhan, Hubei Province, China and spread worldwide causing acute respiratory illness. SARS-CoV-2 is a member of the beta genus coronaviruses, closely related to SARS-CoV and receives different names such as COVID-19, 2019-nCoV, Wuhan Virus, and Wuhan New coronavirus (WN-CoV).

Effects of the COVID – 19 pandemics: Regarding the mental health of medical personnel. The rapid increase in confirmed cases and deaths caused health personnel to experience psychological problems, such as anxiety, depression and stress, mostly among female health professionals, nurses and those working directly with suspected or confirmed cases of COVID-19, were the most affected. The general population entered a state of great fear, anxiety, depression and stress. Mortality increased in people over 60 years of age and those with associated chronic non-communicable diseases, where it has atypical manifestations and devastating effects. During the pandemic there has been a slight increase in the potential years of life lost in Colombia, as well as in the rest of the world. Collapse of health systems in terms of infrastructure, equipment, human and material resources, equipment and supplies such as personal protective equipment. In sexual and reproductive health it was related to abortion in 2%, intrauterine growth restriction in 10% and preterm delivery in 39% of the cases; in Mexico, other studies found preterm delivery in 63.8% (34-37 weeks); fetal distress was present in 61.1% of the cases and birth by cesarean section occurred in 80% of the cases. The most vulnerable populations, which include women, children, adolescents, people with disabilities, people of African descent, indigenous people, people living with HIV, the

marginalized, and the displaced, are most at risk of devastating losses from COVID-19. Unfortunately, this reality is further compounded by health systems, which in our region are being challenged by the rapidly growing demand generated by this pandemic.

Maternal Care: It involves a series of activities, interventions and procedures that are performed to safeguard the health of the mother during the preconception, conception, prenatal and postnatal period and according to the technical standard, in order to comply with this process several procedures are defined in an operational manner, which we transcribe as such in this segment:

- a) Joint accommodation: The placement of the newborn and its mother in the same room to promote early and permanent contact and exclusive breast-feeding.
- b) Pregnancy Care: Activities carried out by the professional with competencies with the pregnant woman for her pre-birth care at the health facility.
 - Pregnant attended: Refers to the first prenatal care received by the pregnant woman during the current pregnancy.
 - Pregnant monitored: Defines the pregnant woman who has Completed her sixth prenatal care and has received her basic prenatal care package.
- c) Emergency obstetric care: Systematized group of activities, interventions and procedures provided to pregnant women, laboring women and postpartum women in urgent or emergency situations in accordance with clinical practice guidelines based on the level of care and the resolution capacity of the health facility.
- d) Complicated pregnancy care: Systematized group of activities, interventions and procedures provided to pregnant women with pathologies during pregnancy, fulfilling the process of diagnosis, stabilization and referral (known as DER by its Spanish acronym) according to the level of care.
- e) Post-partum care: Systematized group of activities, interventions and procedures, both inpatient and outpatient, provided to women during the puerperal period, with the purpose of preventing or detecting complications. For information purposes, the following is considered: attended puerperal is the puerperal who undergoes her first outpatient care with the purpose of controlling the evolution of this period and declaring complications related to childbirth or postpartum within the first seven days after delivery, which may coincide with the appointment of the newborn. In the case of controlled puerperal, this refers to a puerperal who has completed the second outpatient visit, has received ferrous sulfate and has a hemoglobin control at 30 days after delivery.

- f) Complicated pregnancy care: Systematized group of activities, interventions and specialized procedures performed according to clinical practice guidelines.
- g) Institutional and skilled attendance at birth: Systematized group of activities, interventions and procedures performed by qualified professionals for the care of childbirth in a health facility¹.
- h) Refocused prenatal care: It is the surveillance and comprehensive evaluation of the pregnant woman and fetus, ideally before 14 weeks of gestation, to provide a basic package of interventions that allow the timely detection of warning signs, risk factors, education for self-care and family participation, as well as for the proper management of complications; with a gender and intercultural approach within the framework of human rights.
- i) Extreme maternal morbidity: It is the serious complication that occurs during pregnancy, childbirth and puerperium, which puts the life of the mother at risk and requires immediate attention in order to prevent death, in order to include them must meet the following criteria: related to signs and symptoms of specific disease eclampsia, septic shock, hypovolemic shock. Related to organ failure or dysfunction, vascular, renal, hepatic, metabolic, cerebral, and respiratory or coagulation. Regarding the management of the patient, which may include admission to the ICU, emergency postpartum surgery, post cesarean section and transfusion of three or more units of blood or plasma.
- j) Home visits: It is a diagnostic, follow-up and educational tool characterized by entering the family intimacy; and from there to build interventions according to the needs of each family; its purpose is to generate healthy habits and behaviors in each of its members. It is carried out by health professionals who serve as instructors, guides, and companions in the transformation process.

Activities during the home visit to the pregnant woman

- Self-care education for pregnant women and their families, identification of warning signs, verification of nipple preparation, perception and control of fetal movements.
- Inform the pregnant woman and her family about the importance of prenatal care and laboratory tests.
- Verify the intake of ferrous sulfate plus folic acid and medications indicated in case of any pathology.
- Verify vaccinations and laboratory test results in the prenatal card. Coordinate with immunizations at the health facility in case the patient has not been vaccinated. If no HIV/AIDS and syphilis test results are available, rapid test will be performed

after orientation/counseling.

- Identification of Gender-Based Violence and Depression.
- Second and third birth plan interview.
- Signing commitment to attend prenatal care.
- Package of activities in the home visit to the mother's house.
- Providing education on hygiene and nutrition for the mother.
- Provide education in newborn care.
- Identify cases of depression, puerperal psychosis and/or mental health imbalance.
- Identify cases of gender-based violence (GBV).
- Inform about the importance of family planning.
- Report on recognition of warning signs in the mother.
- Verify whether the newborn has been registered in the online system or has a birth certificate, and inform the steps to follow to obtain the identity card of the newborn.
- Obtain the signature of the commitment to attend the postpartum checkup^[18].

Labor: It is the expulsion or extraction out of the uterus of the product of conception of 22 or more weeks of gestational age and weighing 500 grams or more, plus the associated attachments (such as placenta, umbilical cord and membranes). Depending on the place of occurrence, it can be:

- Institutional delivery is the childbirth that takes place in a health facility (hospital, center or health post) and includes vaginal and abdominal delivery (cesarean section).
- Extra-institutional delivery, which may be:
- Domiciliary, Childbirth occurring within the home, attended by health personnel or community health agent, family members or others; or when the delivery occurs on the way from the home to the health facility.

On the way to the health facility. It is considered when it occurs when the patient moves from one facility to another. In this case, it is considered as a delivery from the facility that was referring.

Term Definition

Effect of the COVID - 19 Pandemic on Maternal Care:

These are the basic care received by women in the process of pregnancy, childbirth and puerperium that have indicators or are subject to monthly reporting, in order to identify the descriptive effect, a comparison will be made with the care of the second trimester of 2019.

- Pregnant women timely attended: Pregnant with first care prior to 14 weeks.
- Controlled pregnant woman: pregnant woman with 6 prenatal care visits.
- Home visits: Preventive promotional activity, four visits must be made to each pregnant woman, according to the regulations

of the Huancavelica Department.

- Telephone follow-up: Strategy implemented to follow up on the

METHODOLOGY AND RESULTS

Temporal and Spatial Scope: Provincial Hospital of Acobamba is located between Amargura Avenue and Sucre Park, in the Santos neighborhood of the district of Acobamba, and province of the same name in the region of Huancavelica. The hospital was created in 1988 as a first level establishment and in 2014 received the category of a level II-1 hospital under regional directorial resolution N°435, becoming a hospital, currently the hospital is led by Dr. Juan Dionisio Flores Vergaray. It is accessible by road from the center of the city of Acobamba and is located 3 hours from the capital of the Department of Huancavelica. The population assigned to its charge is 5913 inhabitants of which 3073 are women and 115 pregnant women

reproductive process during confinement.

are expected to be attended during 2020, during 2019 105 pregnant women were attended. The facility maintains the category II - 1, and has the following services in the field of maternal and perinatal health: Obstetric emergency 24 hours a day and in the health services provider unit (UPS by its Spanish acronym) external consultation the portfolio of services for maternal care is 12 hours and has 2 offices for prenatal care, 01 specialized gynecology and obstetrics office, 01 furnished environment for obstetric psych prophylaxis, which is currently not being used since the pandemic requires social distancing, immunizations, dentistry, psychology and nutrition, and other related UPS include laboratory and pharmacy

Table 2: Operationalization of Maternal Care

PREGNANT HEMODYNAMICS						
CONCEPTUAL DEFINITION	OPERATIONAL DEFINITION	DIMENSIONS	INDICATORS	ITEMS	VALUE	Variable type
Involves a series of activities, interventions and procedures performed to safeguard the health of the mother during the preconception, conception, prenatal and postnatal period and according to the technical standard and level of care of health facilities, during the pandemic of COVID – 19	Basic care received by women in the process of pregnancy, childbirth and puerperium that have indicators or are the subject of monthly reports, in order to identify the descriptive effect, a comparison will be made with the care received in the second trimester of 2019	Prenatal care	Pregnant women timely attended	N° of pregnant women programmed for the second trimester	Quantitative	Discreet
				N° of pregnant women with first prenatal check-up before 14 weeks of pregnancy	Quantitative	Discreet
				N° of pregnant women with first prenatal check-up at 14 weeks or later	Quantitative	Discreet
			Proportion of pregnant women controlled	N° of pregnant women with 6 APN	Quantitative	Discreet
			N° of pregnant women checked plus complete laboratory set	N° of pregnant women with 6 APN and complete laboratory set	Quantitative	Discreet
			Proportion of pregnant women visited	N° of visits received by each pregnant woman	Quantitative	Discreet
		Delivery care	Proportion of pregnant women with telephone follow-up	N° of telephone follow-ups were made to each pregnant woman	Quantitative	Discreet
				N° of scheduled deliveries	Quantitative	Discreet
			Proportion of home deliveries	N° of institutional deliveries	Numeric	Discreet
		Puerpera control	Proportion of home deliveries	N° of home deliveries	Quantitative	Discreet
				N° of programmed postpartum women	Quantitative	Discreet
			Proportion of puerperal women with first outpatient check-up within the first 7 days	N° of postpartum women with first control within the first 7 days		
			Proportion of postpartum women with second checkup	Postpartum women with second check-up	Quantitative	Discreet
			Proportion of puerperal women visited	N° of postpartum women visited per month	Quantitative	Discreet
			Proportion of puerperal women followed up by telephone	N° of puerperal women followed up by telephone	Quantitative	Discreet
		Maternal emergencies	N° of obstetric emergencies attended	N° of obstetric emergencies attended	Quantitative	Discreet
			Proportion of extreme maternal morbidity	N° of EMM cases	Quantitative	Discreet
			Proportion of major complications during pregnancy	Abortion	Qualitative	Nominal
				Hypertensive disorders of pregnancy		
			Proportion of major complications during pregnancy	Fetal distress	Qualitative	Nominal
				Hemorrhage in the first half of pregnancy		
				Hemorrhage in the second half of pregnancy		
				Prolonged labor		
				Premature rupture of membranes		
				Hyperemesis gravidarum		
				Threatened preterm labor		
				Prolonged pregnancy		
				Metabolic disorders		
				Postpartum hemorrhage		

For delivery care, there is a delivery room and immediate care of the newborn, a surgical center and a blood bank that is in the process of implementation. As a result of the pandemic, the services

have been reorganized, creating a distinct triage for the taking of samples and delivery of results before admission to the hospital, in which if a pregnant woman who comes for control or comes for an

emergency is positive for COVID - 19, there are exclusive personnel for her care and a special area was also implemented for the attention of emergencies, deliveries and a hospitalization area. This differentiation was made to control in-hospital transmission of the virus and thereby ensure the health of all patients who come to the hospital. In the area of transportation, there is an ambulance on loan to transfer COVID-19 patients to other hospitals of greater complexity. Some strategies within the institution were modified to reduce in-hospital infection, including early discharge, decreasing hospital length of stay, avoiding contact with other patients and health professionals, and increasing telephone surveillance of pregnant women.

The population attended is of precarious economic resources (third and fourth quintile), mostly beneficiaries of the integral health insurance program, with a good percentage being Quechua-speaking and with a low educational level, still having illiterate women of childbearing age.

Type of Research

The research was observational, the data were collected as found in the records of the monthly consolidations and the report of the medical records, it is retrospective longitudinal because the information was collected from secondary sources, and in two periods second trimester (April - June) of the year 2019 and 2020.

Level of Research

It is descriptive and comparative, because we limit ourselves to analyze the data obtained from maternal care in the periods under study, to see the effect of the SARS-CoV2 pandemic, COVID - 19, on the maternal care that has continued to be provided.

Population, Sample and Sampling

Consisting of all pregnant women, births and puerperal women programmed according to the physical goal of the maternal and neonatal budget program for the second trimester of 2019 and 2020.

Table 3: Population Involved

Characteristics	Total Pregnant Women	
	2019	2020
Pregnant women	27	29
Births	53	60
Postpartum	27	29

Study sample or sample size: it was not necessary to calculate it given the characteristics of the study.

Instrument and technique for data collection

To analyze the effect of COVID - 19, data was collected from the records used in maternal care in the April-June trimester of 2019 and the same period in 2020, using the documentary review form as an instrument. Documentary analysis was used as a technique. The information was collected after requesting permission from the hospital's training unit; the consolidated monthly care of the maternal program was reviewed and the emergency notebook records

and other data were obtained from the Hospital's statistics area. Each record underwent quality control before being tabulated and compared with the Hospital Information System (HIS) report produced in the trimester.

Data analysis techniques and processing

The document review forms were organized and arranged in a database using a Microsoft Excel spreadsheet. For the statistical analysis, descriptive statistics were used with the help of Microsoft Excel 2010 spreadsheet.

The results were organized using descriptive statistics, presenting comparative tables of the two single-entry periods, with absolute and percentage frequency distributions.

Results

The analysis of the main activities developed for the care of the mother during the reproductive process during the first trimester of the health emergency due to the pandemic caused by COVID - 19, compared to the same trimester of the previous year (2019), gives us preliminary results of how maternal care has been affected.

Table 4: Prenatal Care in the Hospital of Acobamba - Huancavelica, During the Second Trimester of 2019 ("No Pandemic") and 2020 ("With Pandemic")

Prenatal Care	No pandemic 2019		With Pandemic 2020	
	f = 27	%	f=29	%
Opportune recruitment				
Pregnant women attended	31	114.8	25	86.2
First CPN before 14 weeks	15	55.6	17	58.6
First CPN at 14 weeks or later	16	59.3	8	27.6
Controlled Pregnant Women				
Primiparous	24	88.9	18	62.1
Multiparous	24	88.9	13	44.8

Table IV shows that out of 29 pregnant women programmed in the second trimester of 2019, 31 pregnant women were attended, exceeding the programmed by 14.8%, however, in the second trimester of 2020, during the pandemic, 29 pregnant women were programmed to be attended, of which only 25 were reached, representing 86.2%; with respect to the first prenatal check-up in the first trimester, in 2019 there were 55.6% compared to 58.6% in 2020. In terms of controlled pregnant women, in 2019, 88.9% of the programmed pregnant women had six prenatal check-ups, compared to 62.1% in 2020. Finally, the number of pregnant women with six prenatal check-ups and a full laboratory set was 88.9% in 2019, with a decrease to 44.8% in 2020.

Table 5: Follow-Up of Pregnant Women by The Hospital of Acobamba - Huancavelica, During the Second Trimester Of 2019 (Without Pandemic) And 2020 (With Pandemic)

Follow-up of the pregnant woman at home	Total of Pregnant Women 2018	
	N = 27	N = 29
N° of home visits received by each pregnant woman	0.9	1.8
N° of pregnant women receiving telephone follow-ups	0	3.9

In Table V, home visits and telephone follow-up are the follow-up activities; during the second trimester of 2019, the number

of home visits received by each pregnant woman was 0.9, which means that not all pregnant women received visits, compared to the second trimester of 2020 during the pandemic period which shows that each pregnant woman received between 1 and 2 visits; with respect to telephone follow-up, this activity was implemented during the pandemic and 3.9 follow-ups were carried out for each pregnant woman.

Table 6: Institutional Delivery Care in The Hospital of Acobamba - Huancavelica, During the Second Trimester of 2019 Without Pandemic And 2020 With Pandemic

Delivery care	No pandemic 2019		With Pandemic 2020	
	f = 53	%	f=60	%
Place of delivery				
Institutional	46	86.8	142	236.7
Domiciliary	0	0.0	3	5.0
Total	46	86.8	146	241.7

Table VI shows that out of 53 programmed deliveries, 86.8% were attended, no home deliveries were recorded, whereas in 2020, 60 deliveries were programmed, but the goal was surpassed by 136.7%; in addition, there were 3 home deliveries, which corresponds to 5% of programmed deliveries.

Table 7: Obstetrical Emergencies of Pregnant Women by The Hospital of Acobamba - Huancavelica, During the Second Trimester of 2019 (Without Pandemic) And 2020 (With Pandemic)

Commitment to the health of the pregnant woman	No pandemic 2019		With Pandemic 2020	
	f = 27	%	f=29	%
Puerperal Control				
Extreme maternal morbidity - EMM	4	13.3	10	13.9
Emergency without EMM	26	86.7	62	86.1
TOTAL	30	100	72	100

Table VII shows that 27 puerperal women were scheduled to be attended in the second trimester of 2019, 66.7% of them had their first check-up within the first week and 59.3% had two check-ups; while in the 2020 period, the goal was far exceeded, reaching 162.1% in the first check-up and 137.9%, a phenomenon that occurred due to the return of the population that had migrated. As for home visits, 74.1% of the puerperal women were visited in 2019 while in 2020, 34 puerperal women were visited, exceeding the objective in proportion (117.2); likewise, telephone follow-up was implemented for 35 puerperal women, reaching 120.7% of the total number of home visits. Obstetric emergencies also increased in the second trimester, reaching 30 emergencies in 2019, of which 13.3% were classified as extreme morbidity; whereas in 2020, 72 emergencies were attended, of which 13.9% were extreme maternal morbidity, as shown in Table VIII.

Table IX shows that during the pandemic, abortion predominated with 22.2% of the total number of emergencies, followed by hypertensive disorders of pregnancy with 15.3%, fetal distress with 9.7%, hemorrhage in the first half of pregnancy, hemorrhage in the second half of pregnancy, prolonged labor, premature rupture of membranes, hyperemesis gravidarum and others with less than 5%. In addition, postpartum hemorrhage

decreased during the pandemic from 13.3% to 2.8%.

Table 8: Main Pathologies That Caused Obstetric Emergencies Attended at The Acobamba Hospital - Huancavelica, Second Trimester 2019 And 2020

Main pathologies that cause emergency	No pandemic 2019		With Pandemic 2020	
	N	%	N	%
Abortion	4	13.3	16	22.2
Hypertensive disorders of pregnancy	6	20.0	11	15.3
Fetal distress	4	13.3	7	9.7
Hemorrhage in the first half of pregnancy	2	6.7	6	8.3
Hemorrhage in the second half of pregnancy	0	0.0	6	8.3
Prolonged labor	3	10.0	6	8.3
Premature rupture of membranes	2	6.7	5	6.9
Hyperemesis gravidarum	2	6.7	5	6.9
Threatened preterm labor	3	10.0	3	4.2
Prolonged pregnancy	0	0.0	3	4.2
Metabolic disorders	0	0.0	2	2.8
Postpartum hemorrhage	4	13.3	2	2.8
TOTAL	30	100	72	100

DISCUSSION

The pandemic we are witnessing due to COVID-19 is an unprecedented event in the history of humankind, and has left the whole world dismayed by the mortality caused by the lack of knowledge about the virus and the collapse of health systems, even in developed countries. The Acobamba Hospital had to take innovative measures such as creating differentiated spaces to control intra-hospital infection, despite the limitations faced by all health facilities, creating a triage where a test to discard the virus is performed, the obstetric center COVID - 19, and an ambulance. Within the practices, early discharge was implemented along with home follow-up by telephone and, if necessary, home visits. On the other hand, it had to respond and adapt to the increase in demand as a result of the return of people who had migrated to different cities, especially to the city of Lima. Many of the pregnant women from other facilities sought care at the Hospital. Monitoring was strengthened through home visits and telephone follow-up, which gave good results and prevented maternal deaths in the second trimester of 2020. With respect to prenatal care during the pandemic, 86.2% of the program was reached, and outside of it, the goal was surpassed by 14.8%, whereas regarding the first prenatal care in the first trimester, 58.6% was reached, a figure similar to that reached outside of the pandemic at 55.6%. This situation was due to the fear of infection with the virus, limiting compliance with the schedule of care. In response, obstetricians have intensified follow-up and monitoring through home visits and telephone calls, making almost two visits and four telephone calls to each pregnant woman; as a result, 62.1% of pregnant women had six prenatal check-ups and when analyzing compliance with the full set of laboratory tests in controlled pregnant women, 44.8%, which means that these services were limited, figures lower than those achieved outside the pandemic, which was 88.9%. This situation is due to social immobility, restriction of outpatient

consultations and fear of infection [7]. The decrease in the achievement of the programs was not only in maternal care but also in family planning services, prevention of cervical and breast cancer, prevention of gender-based violence, educational services in reproductive health, among others [5], [8]. In terms of delivery care, it increased to 236.7%, as a result of the return of migrant pregnant women and the search for delivery care by pregnant women from other facilities, which leads us to believe that the population is more conscious of the importance of an institutional delivery compared to past decades when health personnel struggled to ensure that it could take place, while in the same period of the previous year, 86.8% of scheduled deliveries took place. Likewise, home deliveries were rare before the pandemic and during it occurred in 5% of scheduled deliveries, the main reason was the fear of contagion and being alone in the Hospital since the entry of the companion is restricted. Similar to that identified by Masso, et al [5] who consider that sexual and reproductive health care has been threatened, and on the other hand recommend seeing the pandemic as an opportunity to review and question institutional prejudices and inertia about the process of childbirth.

An increase in childbirth of more than 100% required greater human and material resources, which was met by the commitment of obstetric professionals. Maternal health care is a continuous process that begins with pregnancy and concludes with the end of the postpartum period, the last very delicate stage in the first 24 hours and vital within the 42 days that it lasts. It is obvious that the increase in childbirth has also increased the demand for this service, exceeding the goal by 62.1% for the first control within seven days and by 37.9% for the second control, compared to the previous year without pandemic where 66.7% for the first control and 59.3% for the second control had been reached, which suggests that the Acobamba Hospital has responded adequately to the increase in demand and the challenging care in times of COVID 19. It is important to clarify that it could be thought that a good percentage of puerperal women have not been controlled due to the number of deliveries due to the fact that the puerperal periods of the pregnant women assigned to other facilities were controlled in their home facility. Emergency care increased due to the non-pandemic period from 30 emergencies to 72 emergencies in the pandemic period. However, the proportions of extreme maternal morbidity remained similar in both periods 13.3% in 2019, compared to 13.9% in 2020. The main complications that led the pregnant woman to the obstetric emergency service were found to be abortion (22.2%), followed by hypertensive disorders (15.3%), showing an increase in abortions in times of pandemic, this situation could be related to the limited provision of contraceptive methods at the beginning of the pandemic,

as stated by Damian [7], as well as Masso, et al [5]. Likewise, a slight decrease in hypertensive disorders was noted, from 20% in the non-pandemic period to 15.3% during the pandemic. Paradoxically, a similar situation was also observed in fetal distress from 13.3% to 8.3% during the pandemic. As it can be seen, the effect of the COVID - 19 pandemic on maternal health care has been unusual, although there is a slight decrease in prenatal care, the care of the pregnant woman was strengthened by the follow-up through home visits, superior in relation to the time without pandemic.

It had an effect on the place of delivery, putting again 5% of deliveries at home, which is of very high risk for the life of the mother and the newborn, this occurred in greater proportion during the month of April; the differentiated care strategies for patients with negative test, regained confidence decreasing home delivery for the months of May and June. On the other hand, the incorporation of monitoring by telephone helped to safeguard the health and life of the mother, making us act promptly against any deviation from normality so we found few negative effects. All of the above would not have been possible without the commitment of the health team in maternal care, who despite not receiving monetary incentives, were concerned about maternal health, reinventing themselves despite the shortages, risking their own lives; unfortunately attitudes that have not been recorded, but will remain in each one of them and in the generations to come. However, it should be noted that a longer and more in-depth analysis will help us to see more objectively the effect of the pandemic on maternal health care.

CONCLUSIONS

Prenatal care was affected by the pandemic since the proposed goal was not achieved and showed lower than the period without pandemic as we present, pregnant women attended 86.6% in pandemic and 114.8% without pandemic, pregnant women with first control in the first trimester 58.3% and 55.6%, pregnant women with six controls 62.1% and 88.9%; pregnant women with six controls with complete set 44.8% and 88.9 without pandemic. The monitoring of pregnant women was strengthened during the pandemic by increasing the number of visits and telephone follow-up. During the pandemic, there were 1.8 visits to each pregnant woman and 3.9 telephone follow-ups, compared to 0.8 visits per pregnant woman, which means that there were pregnant women who were not visited during the pandemic. Delivery care reached 236.7%, a phenomenon that occurred due to the return of the population and to deliveries from other jurisdictions; 5% of deliveries occurred at home, compared to 86.8% and 0% outside the pandemic, respectively.

First check-up care within seven days reached 162.1% and second check-up 137.9%, compared to 66.7% and 59.3% in the non-pandemic period; visits to postpartum women exceeded the objective 117.2% during the pandemic period, compared to 74.1% in the non-

pandemic period. Emergencies increased from 30 in the non-pandemic period to 72 in the pandemic period. The proportion of extreme maternal morbidity behaved in a similar way in both periods, 13.3% and 13.9%. The main pathologies that caused the emergency were abortion in a 22.2% rate and hypertensive diseases of pregnancy in 15.3%; there were also fetal distress, hemorrhage in the first half of pregnancy and in the second half of pregnancy.

RECOMMENDATIONS

To the Provincial Hospital of Acobamba: To generate its maternal and neonatal care guidelines by incorporating the strategies generated aligned to the national guidelines, which are suggested because being a provincial hospital and having an assigned population, it has its own particularities in maternal care. Improve prenatal care and identify with precision the returning population and incorporate them in our follow-up systems to avoid maternal deaths. To strengthen the telemedicine clinic at the Provincial Hospital of Acobamba.

To the Acobamba Health Network: To strengthen the Gynecology-Obstetrics services and improve the infrastructure to be prepared for this kind of eventuality. Evaluate the effect of the pandemic in all Health Network facilities. To reinforce the telemedicine office of the different facilities of the Acobamba Health Network.

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